

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	See Form PCT/ISA/210 (sheet 2)
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Applicant's or agent's file reference
BR 15177/GB/HA

FOR FURTHER ACTION
See paragraph 2 below

International application No. PCT/FR2004/003347	International filing date (day/month/year) 22.12.2004	Priority date (day/month/year) 23.12.2003
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International Patent Classification (IPC) or both national classification and IPC
F01 P3/20, F01 P11/20, B60H1/00, F02N17/06

Applicant
PEUGEOT CITROEN AUTOMOBILES S.A.

1. This opinion contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the opinion |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input checked="" type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I **Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

This opinion has been established on the basis of a translation from the original language into the following language

_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed.

☐

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. IV Lack of unity of invention

1. ☐ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
- ☐ paid additional fees
 - ☐ paid additional fees under protest
 - ☐ not paid additional fees
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:

See Supplemental Box

4. Consequently, this opinion has been established in respect of the following parts of the international application:
- ☒ all parts
 - ☐ the parts relating to claims Nos. _____

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	3, 4, 5, 8, 9, 10, 11, 14, 17, 18, 19-22	YES
	Claims	1, 2, 6, 7, 12, 13, 15, 16	NO
Inventive step (IS)	Claims	5, 8, 11, 14, 18, 19-22	YES
	Claims	3, 4, 9, 10, 17	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims		NO
2. Citations and explanations:			
1. Invention I			
2. Reference is made to the following documents:			
D1: DE19750721 A1 (Volkswagen AG) 20 May 1999			
D2: US 2003/089319 A1 (KLINGEBIEL MATTHIAS ET AL.) 15 May 2003 (2003-05-15)			
D3: US5215044 A (Banzhaf) 1 June 1993			
D4: DE 40 32 701 A (SCHATZ OSKAR) 25 June 1992 (1992-06-25)			
D5: DE 195 21 292 A (OPEL ADAM AG) 12 December 1996 (1996-12-12)			
3. Novelty 1, 2, 6, 7, 12, 13, 15, 16			
3.1 INDEPENDENT CLAIM 1			
The present application fails to comply with the requirements of PCT Article 33(1) since the subject matter of claim 1 does not meet the requirement of novelty defined in PCT Article 33(2).			
Document DE19750721 A1 (D1) describes (the references between parentheses apply to this document):			

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Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

a device for controlling the temperature (see figure 3) of fluids circulating in a vehicle with a heat engine (2), of the type comprising a circuit in which a heat-transfer liquid for cooling the heat engine (2) circulates and heat-transfer liquid/fluid to be controlled heat exchangers (6, 23);

the device comprises:

a first heat-transfer liquid/lubricating oil exchanger (6)

a second heat-transfer liquid/recirculated exhaust gases exchanger (23);

the first and second exchangers (6, 23) being connected to the same heat-transfer liquid circuit (see column 3, lines 4-17 and column 4 lines 1-6 and figure 3).

3.2 DEPENDENT CLAIMS 2, 6, 7, 12, 13, 15, 16

The claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (PCT Article 33(2) and (3)). See components 15, 6, 2 and 5 in figure 3.

4 Inventive step 3, 4, 9, 10, 17

The present application fails to comply with the requirements of PCT Article 33(1) since the subject matter of claims 3, 4, 9, 10, 17 does not involve an inventive step as defined in PCT Article 33(3), for the following reasons.

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citations and explanations supporting such statement

3, 4

The use of heat storage means of the phase-change type as a source of heat has already been used for the same purpose in a similar temperature control device, see DE 40 32 701 A (D4) (column 6, lines 53, 54 and figure) and also DE 195 21 292 A (D5) (column 3, lines 29-41). It would be obvious to the person skilled in the art to apply these features with corresponding effect, thereby arriving at a device according to claims 3 and 4.

9, 10

A bypass for the heat storage means according to claims 9 and 10 is already suggested by D5 (see figure and column 2, lines 66-68).

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The control of the bypass valve of the oil exchanger as a function of the temperature, for heating or cooling the oil is already described in US5215044 A (D3) (column 2, lines 33-41, column 7, line 65 - column 8 line 14 and figure 6).

5. The combination of features of claims 5, 8, 11, 14 is not comprised in the prior art and is not obviously derived therefrom.

6. Invention II

1. The control of circulation in the heat-transfer liquid/recirculated exhaust gases exchanger according to claim 18 is not comprised in the prior art and is not obviously derived therefrom.

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
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7. Invention III

1. Despite the lack of clarity referred to (see Box VII), the subject matter of claims 19 and 20 is not comprised in the prior art and is not obviously derived therefrom.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. It is clear from page 11, paragraph 3 of the description that the following feature is essential for the definition of the invention according to claims 19 and 20:

The means for heat exchange between the heat-transfer liquid and the air in the passenger compartment of the vehicle are operating.

Since independent claims 19 and 20 do not contain this feature, they do not meet the requirement following from PCT Article 6 taken in combination with PCT Rule 6.3(b) that any independent claim must contain all the technical features essential for the definition of the invention.

2. Claim 20 is not clear and fails to comply with the requirements of PCT Article 6 in so far as the subject matter for which protection is sought has not been clearly defined. As the conditions are not specified, the person skilled in the art cannot determine which are the technical features necessary for implementation of the invention.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: Box IV

In the opinion of this Authority, the claims cover the following three inventions:

- I) Independent claims 1, 17 and dependent claims 2-16 relate to the temperature control device comprising the first heat-transfer liquid/lubricating oil exchanger and a method for controlling the temperature of the oil;
- II) Independent claim 18 and claims 1, 3 relate to the circulation of the heat-transfer liquid in the heat-transfer liquid/recirculated exhaust gases exchanger and the heat storage means;
- III) Independent claims 19, 20 and claims 1, 3, 15, 21, 22 relate to the circulation of the heat-transfer liquid in the means for heat exchange between the heat-transfer fluid and the air in the passenger compartment of the vehicle, and the heat storage means;

The reasons why the present application relates to three inventions which are not linked so as to form a single general inventive concept, as required by PCT Rule 13.1, are as follows:

The technical effects of the groups of inventions are:

The technical effect of invention **I** consists in that the temperature of the oil is controlled in a known cooling circuit (see D1) comprising an oil exchanger and a recirculated exhaust gases exchanger;

The technical effect of invention **II** consists in that the

Supplemental Box

temperature of the recirculated exhaust gases is controlled in a circuit comprising an oil exchanger, a recirculated exhaust gases exchanger and heat storage means;

The technical effect of invention **III** consists in that the temperature of the air in the passenger compartment of the vehicle is controlled in a circuit comprising an oil exchanger, a recirculated exhaust gases exchanger, heat storage means and means for heat exchange between the heat-transfer liquid and the air in the passenger compartment of the vehicle;

By comparing these technical effects, it appears that there is no corresponding technical effect between these groups of inventions that would link these groups so as to form a single general inventive concept.